REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claim 6 has been amended to change the phrase "reel shape laminate" to --laminate on the reel-- to address the issue raised on page two of the Official Action.

Regarding the question concerning the phrase "melt flow index" recited in Claim 3, it is believed that this is a rather common term known by those in the art. A search on the U.S. Patent and Trademark Office website of patents issued since 1976 reveals quite a few patents using the term "melt flow index." For the Examiner's reference, one of them is U.S. Patent No. 5,536,542. It is thus believed that the use of the phrase "melt flow index" is appropriate.

Withdrawal of the claim rejection based on the second paragraph of 35 U.S.C. § 112 is respectfully requested.

By way of this Amendment, new Claims 7-16 have been added. Thus, the claims currently pending in this application are Claims 1-16, with Claims 1 and 7 being the only independent claims.

Claim 1 defines a method of manufacturing a laminate for web shaped packaging including an innermost film having at least a polyolefin layer as a surface to be laminated, an aluminum foil, a polyolefin lamination layer and a fibrous carrier layer. The method involves applying at least one adhesive resin chosen from an ethylene acrylic acid copolymer, an ethylene methacrylic-acid copolymer, and an ionomer to the surface of the innermost film to be laminated, laminating the aluminum foil on the adhesive resin coated surface of the innermost film through

application of an adhesive, aging and keeping a reel after reel-rolling up the web shape laminate obtained through lamination of the aluminum foil, unwinding the laminate from the reel, processing the aluminum-foil surface through corona discharge, and then laminating the fibrous carrier layer by extrusion lamination of molten lamination resin to the aluminum foil surface processed by the corona discharge.

The method defined in independent Claim 7 involves applying at least one adhesive resin to the surface of the innermost film to be laminated, wherein the innermost film has at least a polyolefin layer containing at least linear low density polyethylene having a narrow molecular weight distribution obtained by polymerization using metallocene catalyst. Aluminum foil is laminated on the adhesive resin coated surface of the innermost film through application of an adhesive, and the web shape laminate obtained after laminating the aluminum foil on the adhesive resin coated surface of the innermost film is rolled onto a reel. The laminate is then unwound from the reel and the surface of the aluminum foil after unwinding is processed by corona discharge. A paper layer is then laminated by extrusion laminating molten lamination resin to the aluminum foil surface processed by the corona discharge.

As discussed in the present application, the method here advantageously provides good layer adhesion intensity to thus inhibit peeling between the layers.

The Official Action sets forth a rejection of original independent Claim 1 based on the combined disclosures contained in U.S. Patent No. 4,387,126 to *Rebholz*, U.S. Application Publication No. 2003/0205319 to *Bengtsson et al.* and German

Document No. 1222241 to *Badische*. That rejection is respectfully traversed for at least the following reasons.

Rebholz discloses a laminated packaging material having a paper or polymeric film 1 serving as an outermost layer, a metallic foil 3 fixed to the substrate 1 by a polyolefin adhesive layer 2, an optional priming layer 2a between the substrate 1 and the adhesive layer 2, a coextruded barrier laminate 5 fixed to the metallic foil 3, optionally by way of a primer layer 4, and an optional polyolefin film 6 secured to the coextruded barrier laminate 5.

The Official Action correctly notes that *Rebholz* does not disclose the method by which the disclosed laminated packaging material is fabricated, except that *Rebholz* mentions utilizing any of the means common in the art, possibly by preparing the laminates in sub-combinations that are then united.

The Official Action takes the position that *Bengtsson et al.* discloses a method for fabricating the laminated packaging material disclosed in *Rebholz*, with such disclosed method being the same as recited in independent claim 1, except for the claimed corona discharge processing.

Bengtsson et al. discloses a method of fabricating a laminated packaging material that is specifically devoid of aluminum foil as a barrier layer. *Bengtsson et al.* describes applying a barrier layer 14 of aqueous polymer dispersion or a polymer solution on one side of a paper carrier layer 11. The paper carrier layer 11 with the applied barrier layer 14 is then directed past a drying apparatus 15 to dry the applied barrier layer 14. *Bengtsson et al.* mentions that the finished paper carrier layer 11 with the applied barrier layer 14 can be rolled up. The paper carrier 11 with the barrier layer 14 is united with a core layer 16 of paper or paperboard while one or

more layers of extrudable thermoplastic 19 are applied between the core layer 16 and the paper carrier layer 11 with the applied barrier material 14.

It clear from a reading of *Bengtsson et al.* that the document does not envision the use of aluminum foil. It thus cannot be said that *Bengtsson et al.* discloses that it would have been obvious to roll a web shape laminate obtained from laminating aluminum foil on an adhesive resin coated surface of an innermost film having at least a polyolefin layer as recited in Claims 1 and 7. It is true that paragraph [0019] of *Bengtsson et al.* mentions that the laminated packaging material can be produced using conventional production equipment. However, that is not a disclosure that the laminated packaging material disclosed in *Rebholz* should be fabricated by applying adhesive resin to the surface of an innermost film having at least a polyolefin layer, laminating aluminum foil on the adhesive resin coated surface of the innermost film through application of an adhesive, and then rolling the web shape laminate obtained after such lamination onto a reel. Clearly *Bengtsson et al.* does not recognize that such a method can contribute to providing good layer adhesion intensity to inhibit peeling between the layers.

In addition, even if one were somehow motivated to use the method disclosed in *Bengtsson et al.* to produce the laminated packaging material disclosed in *Rebholz*, it is significant to note that *Bengtsson et al.* describes applying a barrier layer 14 to a paper carrier layer 1, and possibly rolling up the resulting web. If one were motivated to apply this disclosure to the laminated packaging material disclosed in *Rebholz*, one would apply the aluminum layer 3 to the paper carrier layer 1 described in *Rebholz*, and then roll up the resulting product. This of course is different from what is recited in independent Claims 1 and 7. That is, Claims 1 and 7

recite that the web which is rolled on the reel is the web shape laminate obtained after laminating the aluminum foil on the innermost film having the polyolefin layer.

The Official Action relies upon *Badische* as disclosing electric discharge treatment of a metal surface. As the Official Action notes, *Badische* describes that such electric discharge treatment is intended to increase the adhesion between the metal surface and a plastic film. However, as recited in independent Claims 1 and 7, the surface of the aluminum foil that is processed by corona discharge is laminated to a fibrous carrier layer/paper carrier layer. *Badische* does not disclose corona discharge processing of an aluminum foil which is subsequently laminated to a fibrous carrier layer or a paper carrier layer. If what the Official Action says about the disclosure in *Badische* is true (i.e., that the electric discharge treatment is intended to increase the adhesion between the metal surface and a *plastic film*), the reason for using the disclosed electric discharge treatment does not apply when laminating aluminum foil to a fibrous carrier layer or a paper carrier layer.

The combined disclosures contained in *Bengtsson et al.* and *Badische* would not have led one to understand that good layer adhesion intensity and reduced possibility of peeling between layers can be achieved through use of a laminate manufacturing method involving laminating aluminum foil on an adhesive resin coated surface of an innermost film, rolling the web shaped laminated obtained after such lamination onto a reel, and subsequently unwinding the laminate from the reel and processing the surface of the aluminum foil by corona discharge, followed by lamination of such surface to a fibrous or paper carrier layer. It is thus respectfully submitted that the method recited in independent Claims 1 and 7 is patentably

distinguishable over a combination of the disclosures contained in the applied documents.

New independent claim 7 is further distinguishable, along with independent claim 3, in that it recites that the polyolefin layer to which the adhesive resin is applied to laminate the aluminum foil contains at least linear low density polyethylene having a narrow molecular weight distribution obtained by polymerization using metallocene catalyst. As discussed on, for example, page 23 of the present application, when the web shape laminate obtained after laminating the aluminum foil is rolled onto a reel, the aluminum foil surface contacts the innermost film. Because the innermost film comprises a linear low density polyethylene having a narrow molecular weight distribution polymerized by the metallocene catalyst, even though the aluminum foil surface contacts the innermost film while the laminate is wound on a reel, the chances of contamination of the aluminum foil surface are significantly reduced because of the low molecular weight component, and the low molecular weight component is not likely to bleed from the innermost film to the aluminum foil surface. This aspect of the present invention is lacking in the prior art.

The Official Action notes the discussion in the background portion of the present application describing laminates for paper containers using linear low density polyethylene (LLDPE). However, the discussion in the background does not mention that utilizing a linear low density polyethylene to which is laminated an aluminum foil which is then wound on a reel can provide advantages such as those discussed above. Further, the discussion in the background portion of the application does not describe a polyolefin layer containing at least linear low density polyethylene having

a narrow molecular weight distribution obtained by polymerization using metallocene catalyst.

For at least the reasons discussed above, it is submitted that the claimed method recited in Claim 7 is further patentably distinguishable over the disclosures contained in the applied documents.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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